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Volume 33 No. 1

collecting... projecting...

the magic lantern Gazette

and sharing

Uncle Sam's Movie Projector

- See article inside

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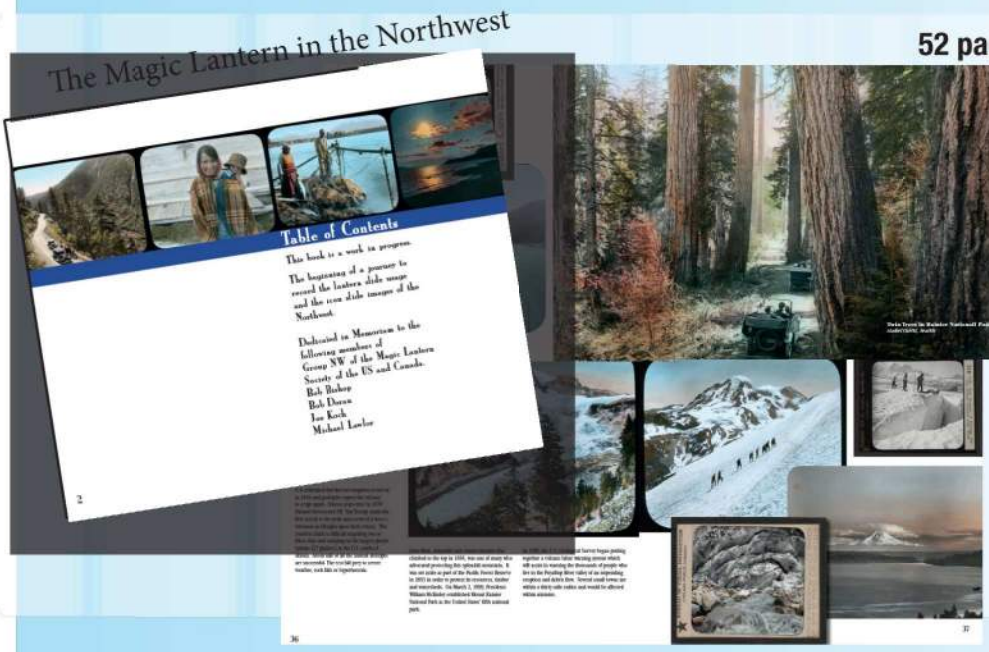
The Magic Lantern in the Northwest
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This book is a work in progress.
The beginning of a journey to record the lantern slide usage and the icon slide images of the Northwest.
Dedicated in Memoriam to the following members of Group NW of the Magic Lantern Society of the US and Canada.
Bob Bishop
Bob Doran
Jon Koch
Michael Lawler

52 pages

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Manufacturers and producers of lantern material
Founders of the society
The Last Magic Lantern Show
Contributors

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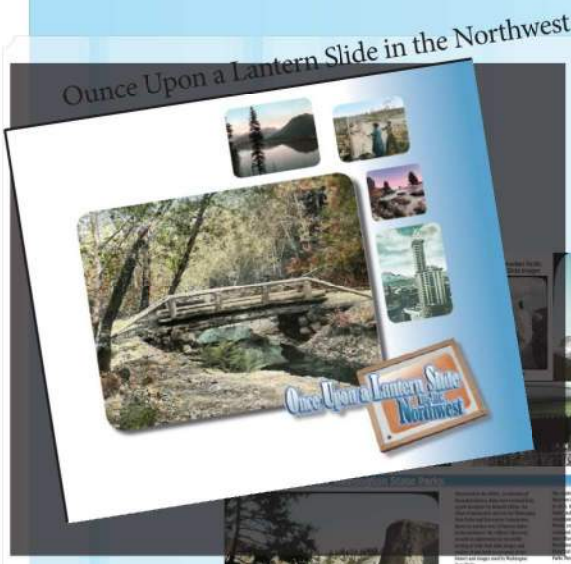

Lantern Slide images and information about lantern slide use in the Northwest

64 pages

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Editorial

A huge thank you to all those of you who are making the effort to contribute to this – YOUR journal! As Editors, we are very grateful to all the contributors – it makes our job much easier as well as ensuring a wider range of topics, views and interests for us all to appreciate.

We were intrigued by the cigar lighter when it appeared on eBay and subsequently managed to acquire it. An imaginative way to use glass slides, even if they are not quite magic lantern size ones. It is actually a nice artefact to add to the collection. We do, however, remain a non-smoking household…

The Delco Light System is on a very different scale, and Dick Moore's article is very enlightening! Always interesting, what you can find in dusty old boxes! The time was when one could find one or two of these boxes in any antiques store, but not so often these days. There must surely be a few more to discover though.

Matthew Schnittker has generously shared his experience of his development work on LED illuminants for his magic lantern. He has even offered to help members with similar projects. Matt's email is included with his article.

We have begun a new series featuring unusual and rare slides, starting with the Anorthoscope, on page 22. This is the moment where you cannot avoid being able to contribute your favourite/unusual/most appreciated slide to feature in a future Magic Lantern Gazette. Please let us know when you can.

Terry's Tips are wonderfully practical as usual. This issue covers projecting slides. If, after all your precautions, you still manage to get a slide upside down, remain calm and carry on. We have found, on the VERY rare occasions when this has happened to us (!), that the audience is very sympathetic. The usual 'throwaway' remark about 'one for the Australian show' still raises a laugh. (I wonder what Australian lanternists say?) At the first British Convention there was no tiered seating, and one member of the audience remarked that it made a change to be able to see something other than sky when a slide was inserted the wrong way up! Some projectionists have even been known to do it deliberately to get a response and to ensure the audience is still awake.

Uncle Sam's Projector is one of those toys which amaze collectors as to how they have survived into the 21st Century having passed through the hands of children. One can only assume that many children were very careful with their toys, or possibly there was a stack of unsold projectors when the toy went out of fashion. Viewmaster stereo viewers seem to be in the same category, though somewhat later and not quite so vulnerable. Even today the viewers sometimes turn up looking nearly like new and with sets of perfect reels.

We hope you enjoy this latest edition of the Gazette with its wide range of articles and hope you may feel encouraged to submit something for the next one. Meanwhile, stay healthy!

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President's Message

Thank you to David and Lesley as Editors and to the authors of this issue's articles. Please keep them coming!

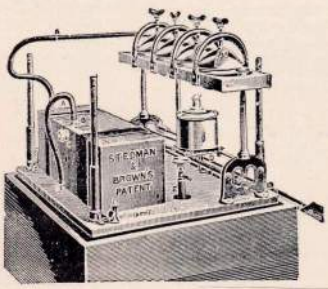
It's been hard the last year to think of the Magic Lantern Society of the US **and** Canada when our long border between us is closed and we can't get together. As the US is starting to emerge from the pandemic, we hope our Canadian friends will be able to do the same shortly. We look forward to seeing friends and associates again and seeing what we hope will be new magic lantern shows and presentations.

Your society is still looking for one or more people who would like to organize a virtual meeting of the society – not a full convention, but an opportunity to see some presentations and a chance to see each other at least virtually. If interested, please contact me at briandrogers@gmail.com. We need to determine what platform to use (Zoom, Youtube, or other?), decide the length and number of presentations, and communicate our plans to members and potential members of the society. If you have technical skills to lend to the effort, please let me know.

As reported in the last issue, we will hold our in-person convention in September or October 2022 in Cleveland, Ohio. Start thinking about what you'd like to present; we'll issue a call for proposals in the fall of 2021. And if you're planning a magic lantern event or exhibition in the meantime, please let me know so it can be added to the magic lantern calendar.

Keep the Magic – Brian Rogers
President

THE
Stedman-Brown Automatic Oxygen Generator.



IS THE ONLY PERFECT OXYGEN PRODUCING OUTFIT THAT IS COMPLETE IN ITSELF.

It will maintain a continuous supply for two hours with absolutely no attention, the oxygen being produced as required at a steady and even pressure entirely automatically. If the gas is not being used the apparatus will stop generating.

There is no danger with this apparatus, and nothing to get out of order.

For laboratories, private use, for travellers and lecturers, both at home and abroad, there is nothing so compact or so efficient.

The whole apparatus packs in its own box for travelling, and can be fitted up and gas produced in less than fifteen minutes.

Further particulars and Lists of every description of Limelight Apparatus, Acetylene Jets, Saturators, and other Apparatus, post free from—

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194 ADVERTISEMENTS.

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Are the Best Toned and most carefully selected Slides on the market.

Every Slide put out by us is made by the Wet Plate Process, which is still Unrivalled for Depth and Beauty of Tone.

Among our new sets for Season, 1893-94 are the following—

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1—A Tour through New Zealand	50
2— Ditto ditto 2nd Series	50
3—An Hour in Shakespeare's country	36
4—Fifty Wonders in Nature and Art	50
5—The Fjelds and Fjords of Norway	50
6—A Night with Burns	36
7—Animal Studies at the Zoo	18
8—Madeira, the Sunny Isle	36
9—The Land of William the Conqueror	40
10—Brittany and Brittany Folk	36

To be had Wholesale only from

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The whole of VALENTINE & SONS' Slides can be had from

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Advertising Slides – Nearly!

David Evans acquired a new toy

A new acquisition arrived recently. It is not quite lantern-related, but comes close (Fig 1). It is actually an advertising device for use in a tobacconist's or cigar store. It is nickel plated and has a 7" diameter base. It was made by the Universal Products Corporation of 915 Washington Avenue, Minneapolis, Minnesota (Fig 2) about 1930, which was about the time that nickel plating was being replaced with chromium plating. There seems to be very little information about Universal Products Corp., though of course it is a rather generic title, so firms with similar names produced everything from dog biscuits to bath salts. In the center of the device is a wire element that glows red hot when you press the switch (Fig 3) beneath it, so that you could light your cigar, similar to the device in most cars.

The interesting part for magic lantern enthusiasts is of course the four advertisements (Fig 5) spaced around the front. The machine has an electric lamp (Fig 4) inside that flashes on for 3 seconds and off for a similar period to attract the attention of the store's customers. Presumably local businesses could have 'slides' made up to appear in it, and also presumably paid the store owner for the privilege!

Fig 1: The advertising machine

Fig 2: The manufacturer's decal

The advertisements mounted in our machine are for the Interior Lumber Co, Maplewood Ice Cream, Christensen Motor Co and J W Robinson Insurance Agency, of 200 Broadway. Research on the Internet reveals no consistency in locations of these businesses. Maplewood is in New Jersey, but there do not seem to be records of the other businesses in that area. There is a J W Robinson Insurance Agency in Ontario, Canada and a Christensen Motor Company in Vancouver, Washington, so it is hard to reach a

Fig 3: Depress the switch to light your cigar

Fig 4: Possibly the original lamp bulb

conclusion about where this object spent its working life.

Whilst the advertisements are printed on glass, they are not on easily removable 'slides' as such, but the style and size is very similar to advertising slides of the 1930 period.

A similar device appeared in Morphy Auctions of Lancaster County PA's sale of Advertising on 2nd September 2017. It was almost certainly not the same machine, as the advertisements on it were different.

Fig 5: The advertisements

Fig 5: The cigar lighter

Fig 6: The inside, showing the backs of the oval glass 'slides'

DELCO LIGHT SYSTEM SLIDES

by Dick Moore

PREFACE:

Taking advantage of in-home time due to the Covid 19 virus, I spent some time reorganizing parts of my lantern slide collection. While looking for a particular slide, I opened a rather dusty box and rediscovered a set of 20 slides related to electric lighting. As best I recall, I purchased them primarily because it was just a group of slides on the same topic and then promptly put them away. While unpretentious, these slides provide interesting documentation that reflects on critical changing times of progress that are often forgotten and lost in what we consider commonplace today.

ELECTRICITY

As you recall from school days, Ben Franklin and his kite played a major role in developing the early understanding of electricity. Some mistakenly say that he invented electricity, when in actuality no one really invented it since it is a natural force that exists in the world and atmosphere. Nevertheless, Franklin was key in developing an understanding of electricity and its potential usage.

Clearly, prior to Franklin, electricity had not gone unnoticed. While documentation can be traced back to 550 B.C. when Thales of Miletus discovered static electricity by rubbing fur on Amber, one has to skip forward a thousand years to the 1600's before finding several texts written about the first theories on electricity.

Of course, over all this time people have been quite aware of static electricity, which is the result of the imbalance between positive and negative charge in an object. It is what make your hair stand on end when you quickly remove your cap or allows the balloon to stick to the wall after you rubbed it against your clothes, or the shock you get or give after shuffling your feet across the rug and then touching something or someone.

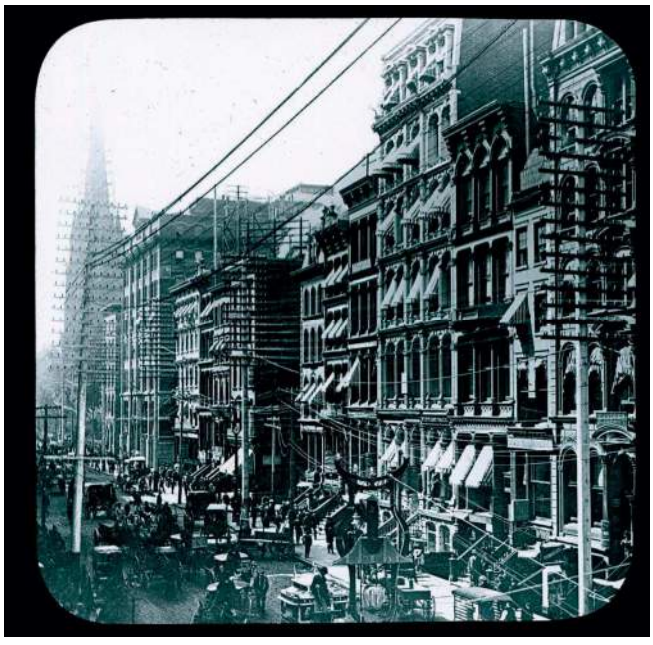
Franklin's major contribution was determining that electricity has positive and negative elements and that electricity flowed between these two elements. He also believed that lightning was a form of this flowing electricity, which he then proved with his famous kite, key, and Leiden jar experiment in 1752. These finding led to the ability to harness electricity and the development of its multitude of practical applications.

Today, electricity is an essential part of our modern life. It is hard to imagine what life would be without it. Which, unfortunately I found out while starting to write this article, when due to a major storm we lost electricity for over a week. Timing!

It was not until 1882 that a house in Appleton Wisconsin became the first American home to be powered by hydro-electricity using the DC current system developed by Edison. During the next decade there was the "War of the Currents", a battle between Edison (DC) and Tesla (AC) / Westinghouse (AC). The battle focused on transmission length capabilities, voltages, and safety. It was intense, with Edison complaining that there was less safety with AC, giving demonstrations of that danger by electrocuting dogs and other animals.

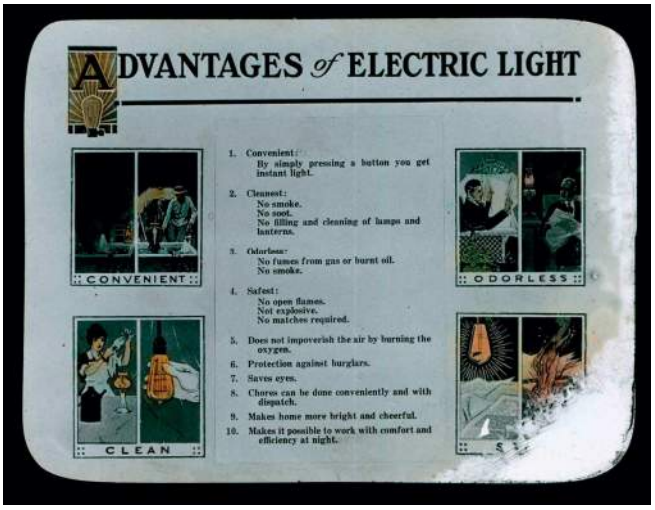
In the 1890's, after many battles, AC eventually won out as the standard that would be used, with one of the key turning points being the selection of Westinghouse's AC lighting system for the 1893 Chicago's World's Fair. The introduction and use of electricity in homes and businesses was gradual. In 1925 only half of American houses had electrical power and those homes were primarily in the cities. In photographs and lantern slides you could see the vast numbers of electric poles strung with layers of wires running up and down the city streets such as the slide image of NYC's famous Broadway.

The rural areas of the country were primarily left out of this great advancement. That is, until along came Charles F. Kettering, an Electrical Engineer - *inventor par*

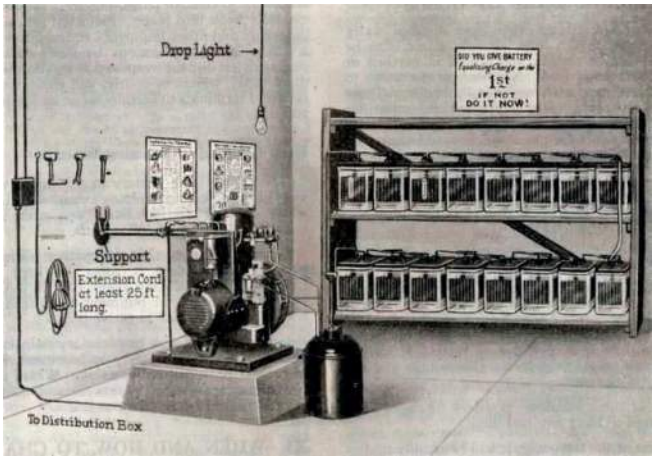


excellence. While he is perhaps best known for his extensive contributions to the automobile industry and particularly General Motors, where he became head of GM Research, he played a major role in bringing lighting to rural America.

In 1909 Kettering, along with two other engineers, started the Dayton Engineering Laboratories Co. – Delco. At that time, while city residents enjoyed the advantage of electricity, electric lights, and electrically run household items (D-1), it was not the case in the rural parts of the country. Millions of farmers still relied on candles, oil lamps, lanterns, hand pumps and outhouses.


ADVANTAGES of ELECTRIC LIGHT
1. Convenient:
By simply pressing a button you get instant light.
2. Cleanest:
No smoke.
No soot.
No filling and cleaning of lamps and lanterns.
3. Odorless:
No fumes from gas or burnt oil.
No smoke.
4. Safest:
No open flames.
Not explosive.
No matches required.
5. Does not impoverish the air by burning the oxygen.
6. Protection against burglars.
7. Saves eyes.
8. Chores can be done conveniently and with dispatch.
9. Makes home more bright and cheerful.
10. Makes it possible to work with comfort and efficiency at night.
CONVENIENT
ODORLESS
CLEAN

D-1: Advantages of Electric Light

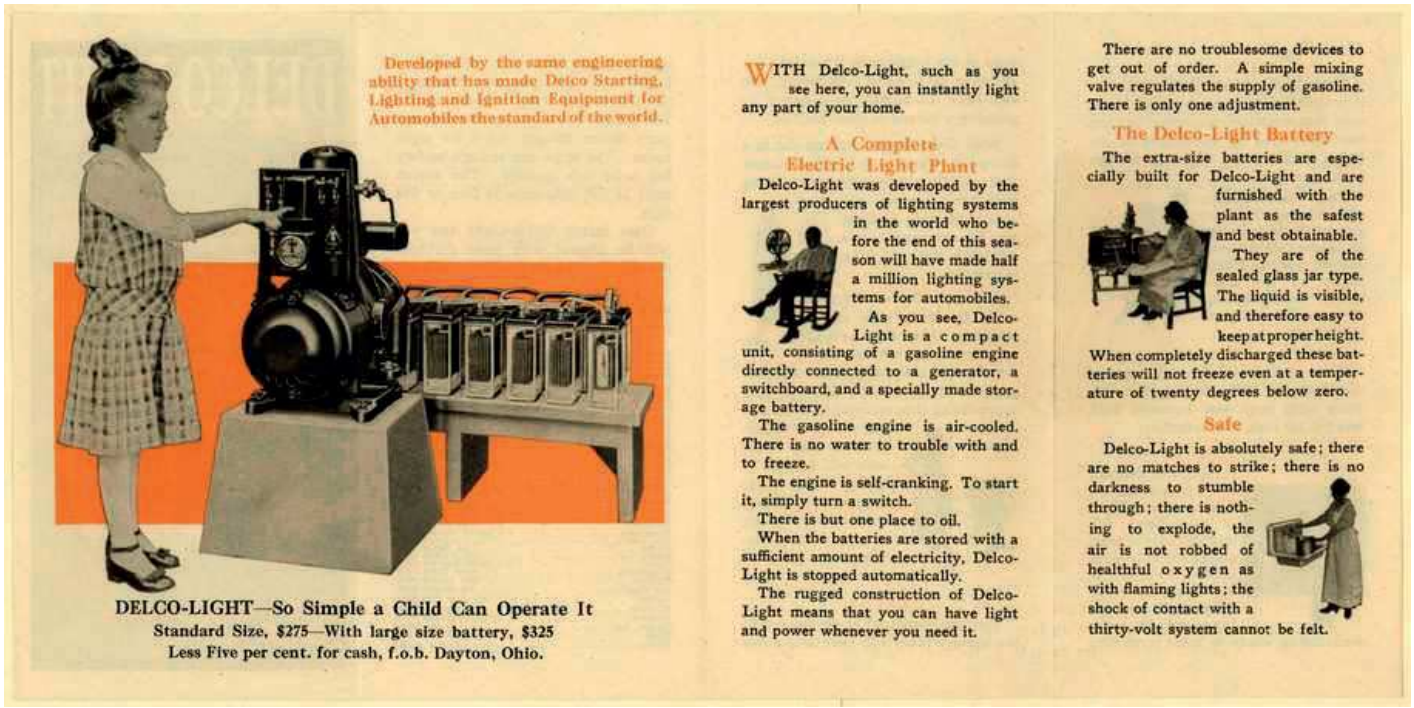


D-2: The Delco-Light system

DELCO-LIGHT SYSTEM

In 1916 Delco introduced the Delco-Light System (D-2). It consisted of a series of large lead-acid storage batteries that had clear glass cases and were arranged in banks of 16, usually on two shelves along a wall. The 16 batteries were wired in series to provide the 32 volts of direct current necessary for the system. The batteries required periodic maintenance to make sure the water and acid levels were kept up to specification. The system was quite easy to operate.

"Beside the batteries sat the combination generator and engine set. When the charge in the batteries dropped below a preset level, the engine would start automatically and


Developed by the same engineering ability that has made Delco Starting, Lighting and Ignition Equipment for Automobiles the standard of the world.
DELCO-LIGHT—So Simple a Child Can Operate It
Standard Size, $275—With large size battery, $325
Less Five per cent. for cash, f.o.b. Dayton, Ohio.
WITH Delco-Light, such as you see here, you can instantly light any part of your home.
A Complete Electric Light Plant
Delco-Light was developed by the largest producers of lighting systems in the world who before the end of this season will have made half a million lighting systems for automobiles.
As you see, Delco-Light is a compact unit, consisting of a gasoline engine directly connected to a generator, a switchboard, and a specially made storage battery.
The gasoline engine is air-cooled. There is no water to trouble with and to freeze.
The engine is self-cranking. To start it, simply turn a switch.
There is but one place to oil.
When the batteries are stored with a sufficient amount of electricity, Delco-Light is stopped automatically.
The rugged construction of Delco-Light means that you can have light and power whenever you need it.
There are no troublesome devices to get out of order. A simple mixing valve regulates the supply of gasoline. There is only one adjustment.
The Delco-Light Battery
The extra-size batteries are especially built for Delco-Light and are furnished with the plant as the safest and best obtainable.
They are of the sealed glass jar type. The liquid is visible, and therefore easy to keep at proper height.
When completely discharged these batteries will not freeze even at a temperature of twenty degrees below zero.
Safe
Delco-Light is absolutely safe; there are no matches to strike; there is no darkness to stumble through; there is nothing to explode, the air is not robbed of healthful oxygen as with flaming lights; the shock of contact with a thirty-volt system cannot be felt.

A-1: Delco-Light advertisement

then shut off when the batteries signaled they were fully charged. All the owner needed to do was to keep the fuel tank full and the oil level in the engine up to the mark." The operation was largely automatic. As the ad (A-1) shows, even a child can work it.

With the system in place rural life changed dramatically. Luxuries enjoyed by city dwellers such as late-night reading with a cooling fan for those hot humid nights (D-3), being able to tinker at night in your workshop (D-4) and having a late-night lighted dinner (D-5) became available to whomever could afford the Delco Light System.

D-3: Reading under electric light

D-4: Working late at night

For the farmer, instead of having to go into a dark barn, carrying oil lanterns, which as we know started lots of disastrous fires, they could now have an electric light to help them finish their evening chores. (D-6)

D-5: Late evening dinner

Delco-Light offered multiple models of generator sets capable of a wide range of watts of power. "Even small towns that were beyond the reach of electric main lines were served by Delco-Light plants." The community could now hold evening meetings for church groups, the Ladies Auxiliary, educational lectures, or town meetings (D-7).

D-6: Lights in the barn yard

In the evenings, the small towns could now have a new brightness and feeling of gaiety. The theater marque would be a-lit, advertising the latest double feature (D-8). The stores would be lit up for that special Wednesday night shopping opportunity (D-9).

Used in the store, the Delco Lighting System made the storekeeper's life easier with a light for the scale (D-10) assuring everyone an honest and proper weight, or with the

D-8: Theater Lighting

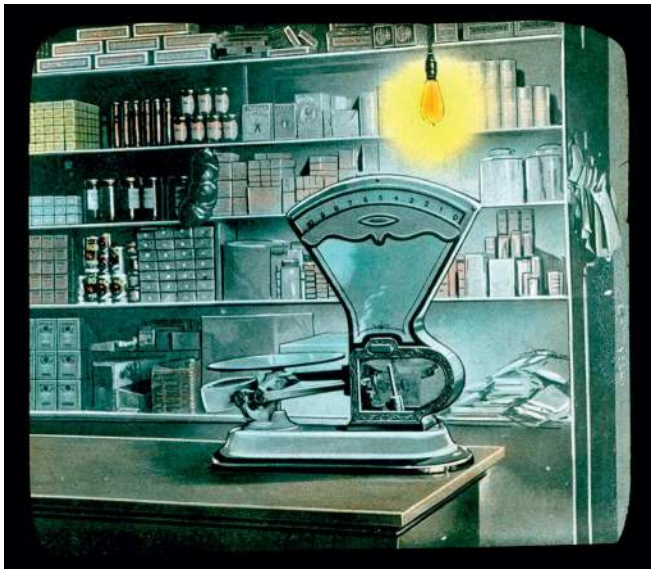
D-9: Late night shopping at the local store

flick of the switch, there was electricity to run the coffee grinder (D-11).

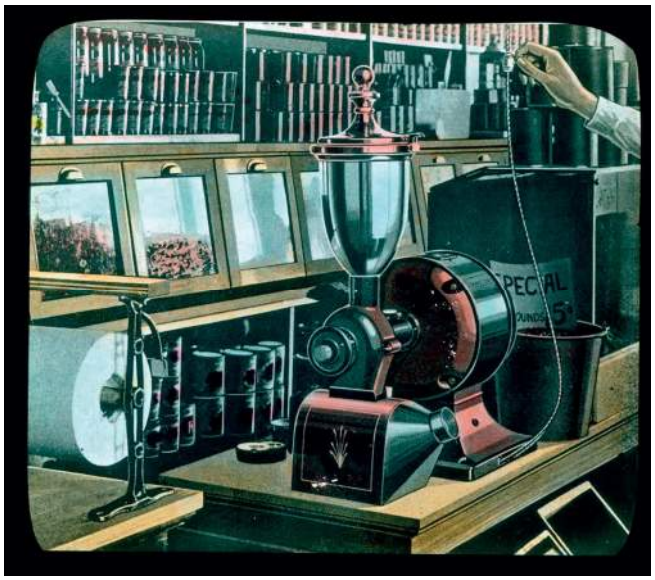
And strangers to town not only could more easily find the hotel (D-12) but could be comfortable in a "well lit" lobby (D-13).

While the Delco Light System was expanding for basic electrical lighting usage with flameless electrical lights, Kettering was also introducing a complete line of DC electrical appliances that could operate directly from the battery system. This included electric irons (D-14), washing machines (D-15) and even vacuum cleaners (D-16). All items to make the life and work of the rural housewife much easier.

Let us not forget the indoor plumbing. Kettering's list of



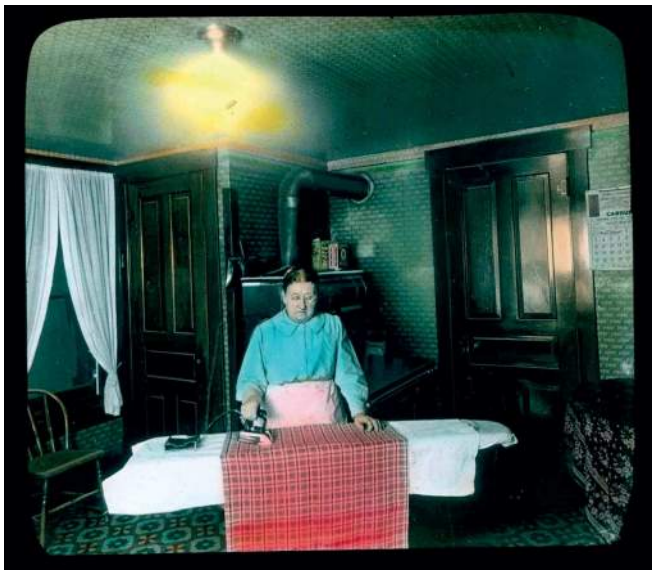
D-10: Easier to read the scale



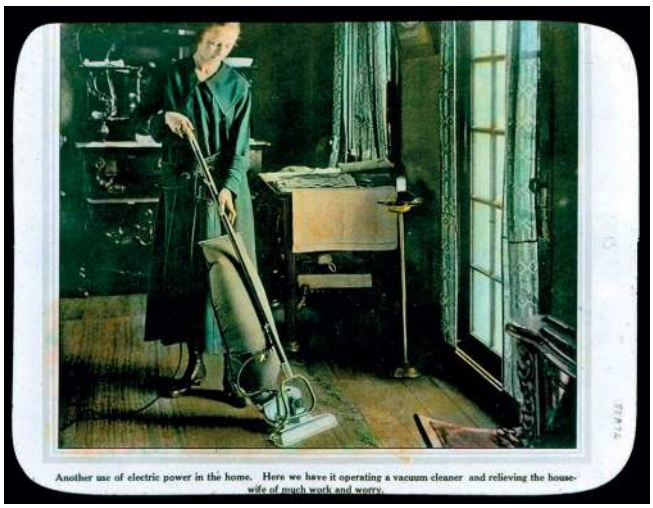
D-11: The electric coffee grinder

D-12: The hotel lit up after dark

D-13: The cheerfully lit hotel lobby



D-14: Using the electric iron (above) and D-15: The electric vacuum cleaner (below)


Another use of electric power in the home. Here we have it operating a vacuum cleaner and relieving the housewife of much work and worry.

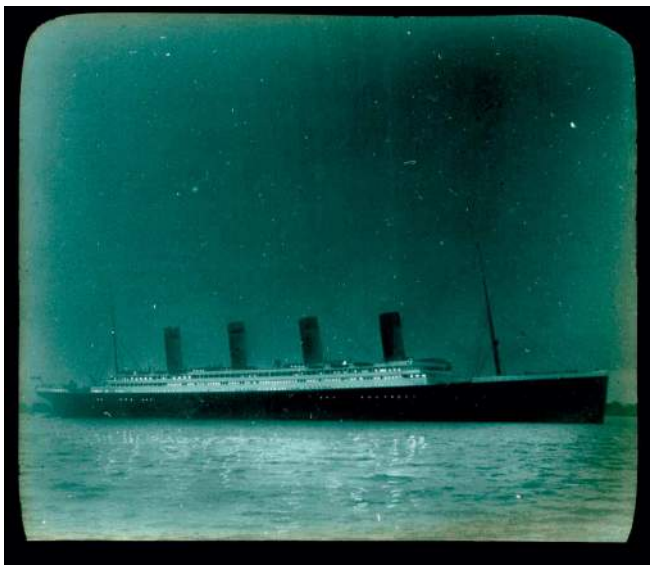
D-17: Hot water in the kitchen

DC compatible electrical items included well pumps for running water and even hot water heaters. Imagine the thrill of these featured items: running water in the kitchen (D-17) and hot water in the bathroom for that tub and all lit with safe flameless and smokeless lights (D-18).

D-18: Hot water in the bathroom

Introduced in 1916, the Delco-Light System was an immediate success selling 35,000 units in the first 6 months and 175,000 in the following two years. Sales would exceed 500,000 by 1935. Larger systems were developed with a product line of 500 to 3000 watts and 25 models to meet most remote needs. Seemingly nothing was too big of a challenge for the Delco-Light System (D-19).

"Delco-Light became the undisputed king of the light plant



D-19: Delco system on an ocean liner

market very early on. Their advertising throughout the 1920's and 1930's was often visually striking and appealed to the senses of modernization and progress. The company even went so far as to suggest that converting to a modern Delco-Light farm home would make the difference between a life of success and happiness and one of failure and despair. Parents were persuaded to believe that modern life in the city would lure young folks away from the farm forever unless they provided them with a full, rich life, designed for health and genuine contentment that could only be delivered with a Delco."

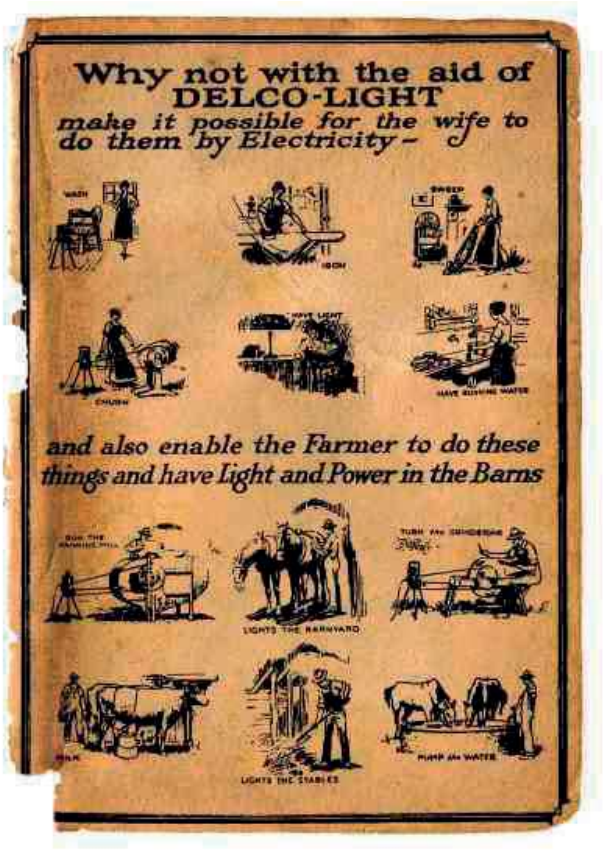
Eventually, progress caught up with the Delco-Light System. "In 1935, President Franklin Roosevelt established the Rural Electrification Administration (REA) by Executive Order. Its goal was "to carry electricity to as many farms as possible in the shortest possible time and have it used in quantities sufficient to affect rural life." The Rural Electrification Act Passed by Congress in 1936 provided the funds for achieving this goal. During the next two years 100,000 miles of power lines were built at a cost of $210 million ($3.9 billion today) to provide electricity to 220,000 farms at a cost of about $950 ($17,785) today) each."

As a result of the REA the need for and use of the Delco-Light system was replaced. However, Delco as a company survived as a key part of General Motors, while many of the other producers of similar systems either went out of business or switched to other products.

DELCO-LIGHT SALES STRATEGY

The basic Delco Light system sold for $250 dollars, a lot of money at that time. It therefore took an innovative sales approach to market the system throughout the rural communities. (A-2)

The Delco sales strategy was up to the task and was quite creative. The salesmen would equip their vehicles with a portable Delco-Light System, capable of running a few lights and small appliances. They would then visit the farmers at dusk. "After lighting up the barnyard and pumping some water, they would brew up coffee, hand round steaming mugs of the stuff and, hopefully, get the farmer to sign on the dotted line. If they succeeded, the farmer's wife was shown the many appliances available that would work on the system." They would in essence shame the farmer into buying the system, not just for the farm, but for his wife and family's comfort and ease in doing household chores (A-3).


Why not with the aid of
DELCO-LIGHT
make it possible for the wife to
do them by Electricity –
and also enable the Farmer to do these
things and have Light and Power in the Barns

A-3: A happy wife is a happy life...

THE DELCO LIGHT SYSTEM LANTERN SLIDES

Like many slides it is difficult to know their exact origin or use, and this group is no exception. These slides were manufactured by Victor Animatograph Co. of Davenport Iowa, Manufacturer of Victor Picture Projectors. They are clearly labeled on the masks of the slides. Additionally, all the slides have a small, pasted label stating a brief description of the scene. A few of these labels also said, "Delco Lighting." These labels were affixed to the outside of the glass.

It is not clear if the slides were made specifically for Delco

In the 1920s when this ad was published, $250 was a lot of money. But many innovative farmers were willing to pay that much to generate their own electricity and store it in scores of batteries. These Delco plants would run lights, a few small farm machines and early radios. Power for heavy farm implements had to wait for REA in the 1930s to 50s.

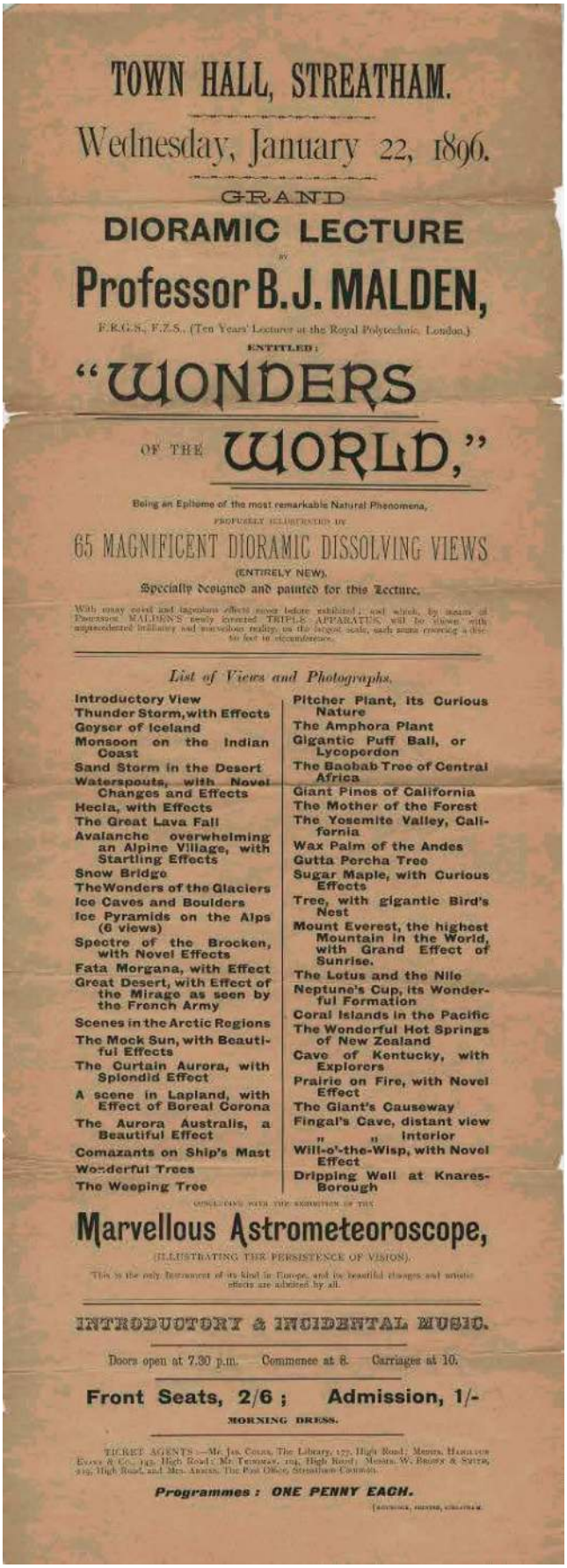
Lights or were part of a set of slides showing the advantages of electricity, and then possibly used by Delco Lights or by someone making a presentation on the history of Delco-Lights. It is however noteworthy that several of the slides showing use of electricity in the home (Ironing, Washing Machine, Light in kitchen, Vacuuming) do parallel the images that appear in some of the ads (see A-3).

With respect to the possible use of these slides by Delco-Lights, it is quite unlikely that a salesman would put on a lantern show at individual farms since direct demonstrations of the Delco-Lights system would have been much more effective. I suspect these slides were could have been utilized in one of two ways: First, they may have been used to train salesman in how to convey the message about the Delco-Light system. Second, salesmen may have come into a town and using the magic lantern and these images presented at a community meeting the Delco-Light System, with its farm and household advantages, Then afterwards, taking the "dusk trips" to individual farms to directly demonstrate and sell individual systems.

It is also possible that these slides were part of a series of slides on the introduction of electricity for home and business use. Some of the added-on labels have numbers that range upwards to 134, suggesting that at some time they were part of a larger lantern lecture presentation.

Research to further identify the slide set is still in progress. Unfortunately, due to Covid 19 restrictions and individual safety concerns, access to the key information archives on Victor Animatograph Co. at the University of Iowa have been drastically reduced. If, and when further information is obtained there will be a brief addendum publication. I do want to note and thank Peter Balestrire from the Special Collections Library at the University of Iowa for his assistance.

D-7: Just the type of venue where the slides would be shown



TOWN HALL, STREATHAM.

Wednesday, January 22, 1896.

GRAND

DIORAMIC LECTURE

BY

Professor B.J. MALDEN,

F.R.G.S., F.Z.S., (Ten Years' Lecturer at the Royal Polytechnic, London.)

ENTITLED:

"WONDERS OF THE WORLD,"

Being an Epitome of the most remarkable Natural Phenomena,

PROFUSELY ILLUSTRATED BY

65 MAGNIFICENT DIORAMIC DISSOLVING VIEWS

(ENTIRELY NEW),

Specially designed and painted for this Lecture.

With many novel and ingenious effects never before exhibited; and which, by means of Professor MALDEN'S newly invented TRIPLE APPARATUS, will be shown with unprecedented brilliancy and marvellous reality on the largest scale, each scene receiving a due degree of accordance.

List of Views and Photographs.

Introductory View
Thunder Storm, with Effects
Geyser of Iceland
Monsoon on the Indian Coast
Sand Storm in the Desert
Waterspouts, with Novel Changes and Effects
Hecla, with Effects
The Great Lava Fall
Avalanche overwhelming an Alpine Village, with Startling Effects
Snow Bridge
The Wonders of the Glaciers
Ice Caves and Boulders
Ice Pyramids on the Alps (6 views)
Spectre of the Brocken, with Novel Effects
Fata Morgana, with Effect
Great Desert, with Effect of the Mirage as seen by the French Army
Scenes in the Arctic Regions
The Mock Sun, with Beautiful Effects
The Curtain Aurora, with Splendid Effect
A scene in Lapland, with Effect of Boreal Corona
The Aurora Australis, a Beautiful Effect
Comazants on Ship's Mast
Wonderful Trees
The Weeping Tree
Pitcher Plant, its Curious Nature
The Amphora Plant
Gigantic Puff Ball, or Lycoperdon
The Baobab Tree of Central Africa
Giant Pines of California
The Mother of the Forest
The Yosemite Valley, California
Wax Palm of the Andes
Gutta Percha Tree
Sugar Maple, with Curious Effects
Tree, with gigantic Bird's Nest
Mount Everest, the highest Mountain in the World, with Grand Effect of Sunrise.
The Lotus and the Nile
Neptune's Cup, its Wonderful Formation
Coral Islands in the Pacific
The Wonderful Hot Springs of New Zealand
Cave of Kentucky, with Explorers
Prairie on Fire, with Novel Effect
The Giant's Causeway
Fingal's Cave, distant view
" " interior
Will-o'-the-Wisp, with Novel Effect
Dripping Well at Knaresborough

CONCLUDING WITH THE EXHIBITION OF THE

Marvellous Astrometeoroscope,

(ILLUSTRATING THE PERSISTENCE OF VISION).

This is the only Instrument of its kind in Europe, and its beautiful changes and artistic effects are admired by all.

INTRODUCTORY & INCIDENTAL MUSIC.

Doors open at 7.30 p.m. Commence at 8. Carriages at 10.

Front Seats, 2/6; Admission, 1/-

MORNING DRESS.

TICKET AGENTS:—Mr. Jas. Cooke, The Library, 177, High Road; Messrs. Hamilton Evans & Co., 143, High Road; Mr. Twomlow, 194, High Road; Messrs. W. Brooks & Sons, 219, High Road, and Mrs. Anders, The Post Office, Streatham Common.

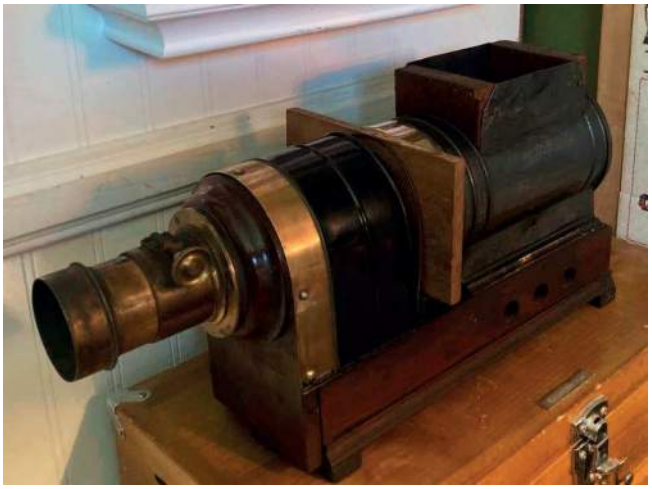
Programmes: ONE PENNY EACH.

New Life For The Marcy Sciopticon

Matthew Schnittker - mschnitt@gmail.com

I joined a small group of Magic Lantern enthusiasts who are specifically interested in performing. The group is lead by Terry Borton and meets every two weeks on Zoom to both perform, as well as to discuss all things related to the Magic Lantern and early cinema. (If interested, you can contact Terry to join at tborton@magiclanternshows.com). During one of our meetings, Terry gave us an overview of the Marcy Sciopticon. Terry is a fourth generation magic lanternist and the Marcy was the lantern his great grandfather used. Designed in the late 1860s, the double body, double wick and compact design helped bring new innovations to magic lantern manufacturing and provided a new paradigm that others imitated.

I had originally purchased my Marcy due to an interest in the lens. I expected that the Darlot Petzval lens would be useful for making tintypes using wet plate photography. However, I became enchanted with the lantern. The beautiful brass and wood combination and solid construction dating back to the 1860s seemed a perfect companion for the historic demonstrations I do at Fort Tejon State Historic Park in Southern California. This meant looking at options for lighting.

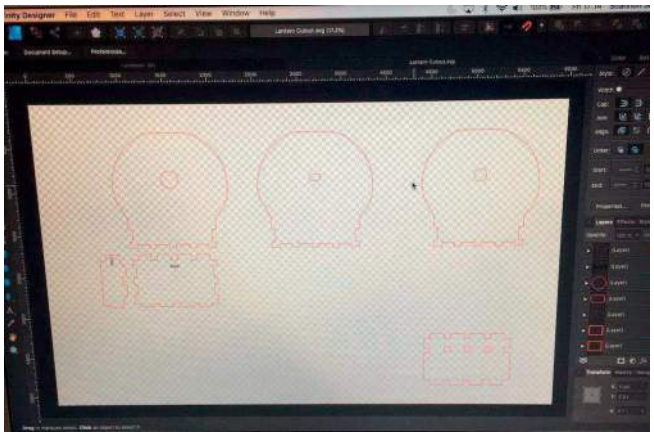


The Marcy Scioptican

I decided to try building LED lighting for it. I based the design on the MR16 style LED bulb. They can be obtained in 12V models and the LED versions run up to 9 watts. They vary between 15 and 35 degree dispersion angle so you can choose a bulb that works with your specific condenser and lantern body. For this project I used the SORAA "08740 75 Watt Equivalent". It has 665 lumens, 36 degree dispersion pattern and only consumes 9 watts.

The LED lamp selected

I started by measuring the inside of the lantern and sketching out a basic design. This design was loaded into the Affinity Designer software that is used with the Glow Forge laser cutter.

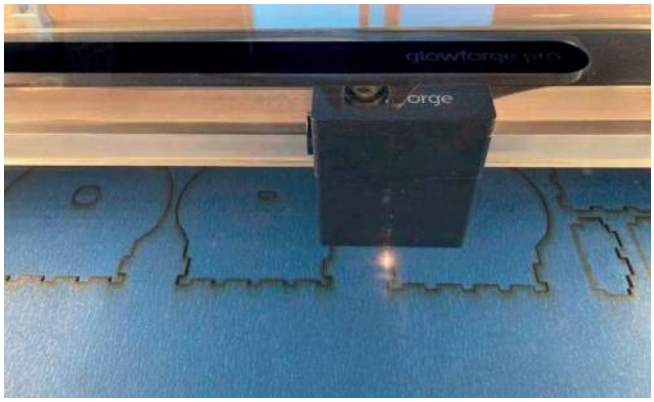


Creating the design

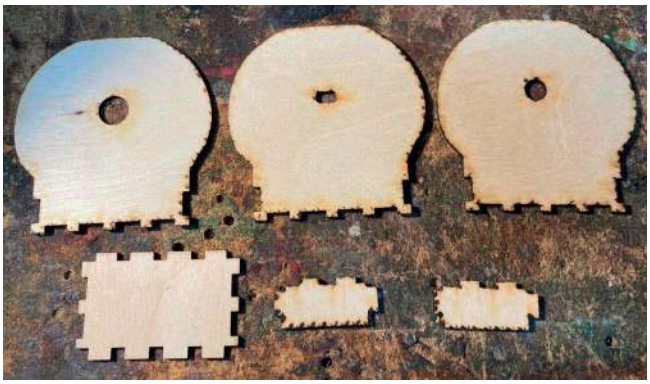
When designing something new, it often takes a few iterations to get everything quite right so several prototypes were created on cardboard. The design was finally cut out using the Glow Forge Pro on 1/8 inch Baltic Birch Plywood.

This was assembled using wood glue.

I attached battery holders for 18650 cells. The 18650

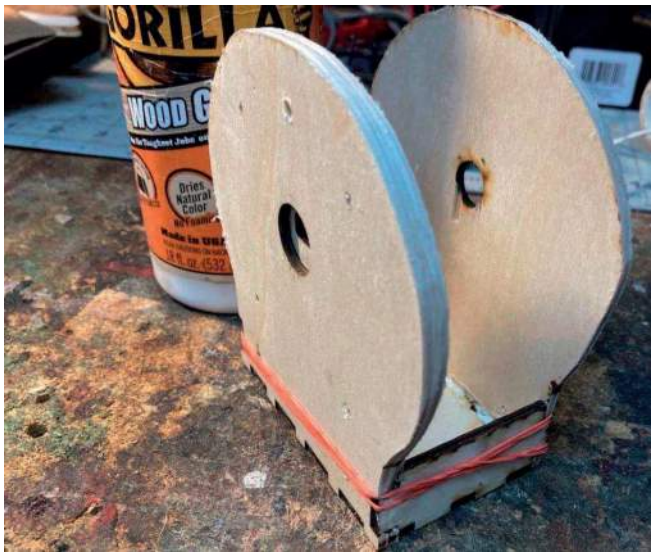


The laser cutter tool in operation



The plywood sections cut out

is a very versatile cell that runs at 3.7 volts and will have a capacity between 2 and 5 amp hours depending on the model purchased. They are readily available and not too expensive.



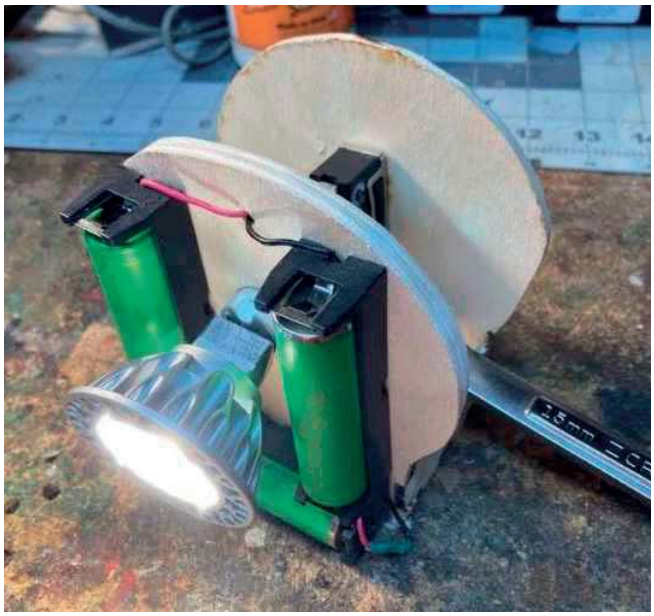
The parts assembled

The MR16 bulb was mounted on the front.

Once installed in the lantern, the switch in the back is nicely disguised by the back cover.

The lamp sits essentially where the original flame would have been when operating with kerosene.

After some testing, I found my design needed a few revisions.



Testing the lamp

Low Voltage - As the 18650 cells are 3.7 volts each, this gives a total system voltage of 11.1 volts. Although this was enough to drive the LED and it worked OK, I decided to add a cell to raise the voltage to 14.8 volts hoping that this would give me longer battery life.

Heat - I thought having the batteries in front would keep them out of the way, but even with only consuming 9 watts, the bulb does get hot. Not all 18650 batteries do well with heat, so I started loosing batteries to heat failure. I needed to move the batteries off the front.

Balance - Having the bulb and batteries in front made the fixture a bit "Front Heavy".

I decided to mitigate all of these by adding a battery holder and distributing the batteries around the holder differently.

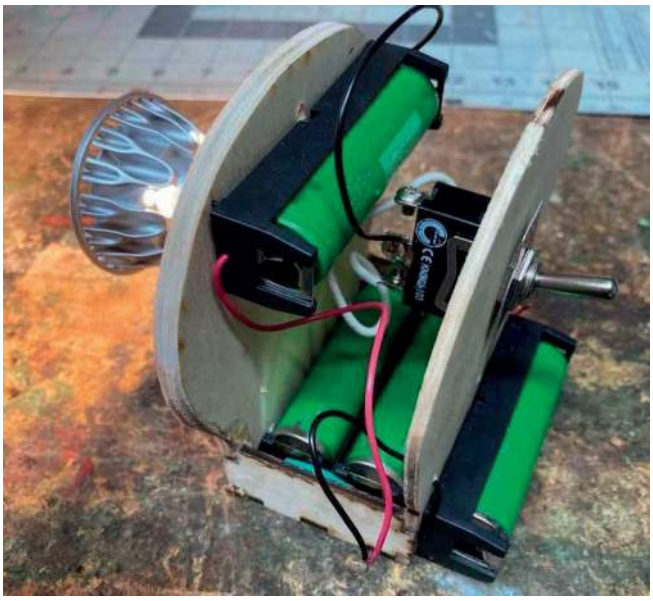
Fully installed, the lamp is imperceptible and does a nice job illuminating an image. As it runs on battery, it can be used almost anywhere.

I measured light at the screen at 15 feet using a handheld light meter with two different bulbs. Here were the readings in LUX.

SORAA 9W 12V 670 Lumens 36 degree

dispersion: Lux at Screen: 90

CREE 7.5W 12V 570 Lumens 25 degree dispersion: Lux at Screen: 80

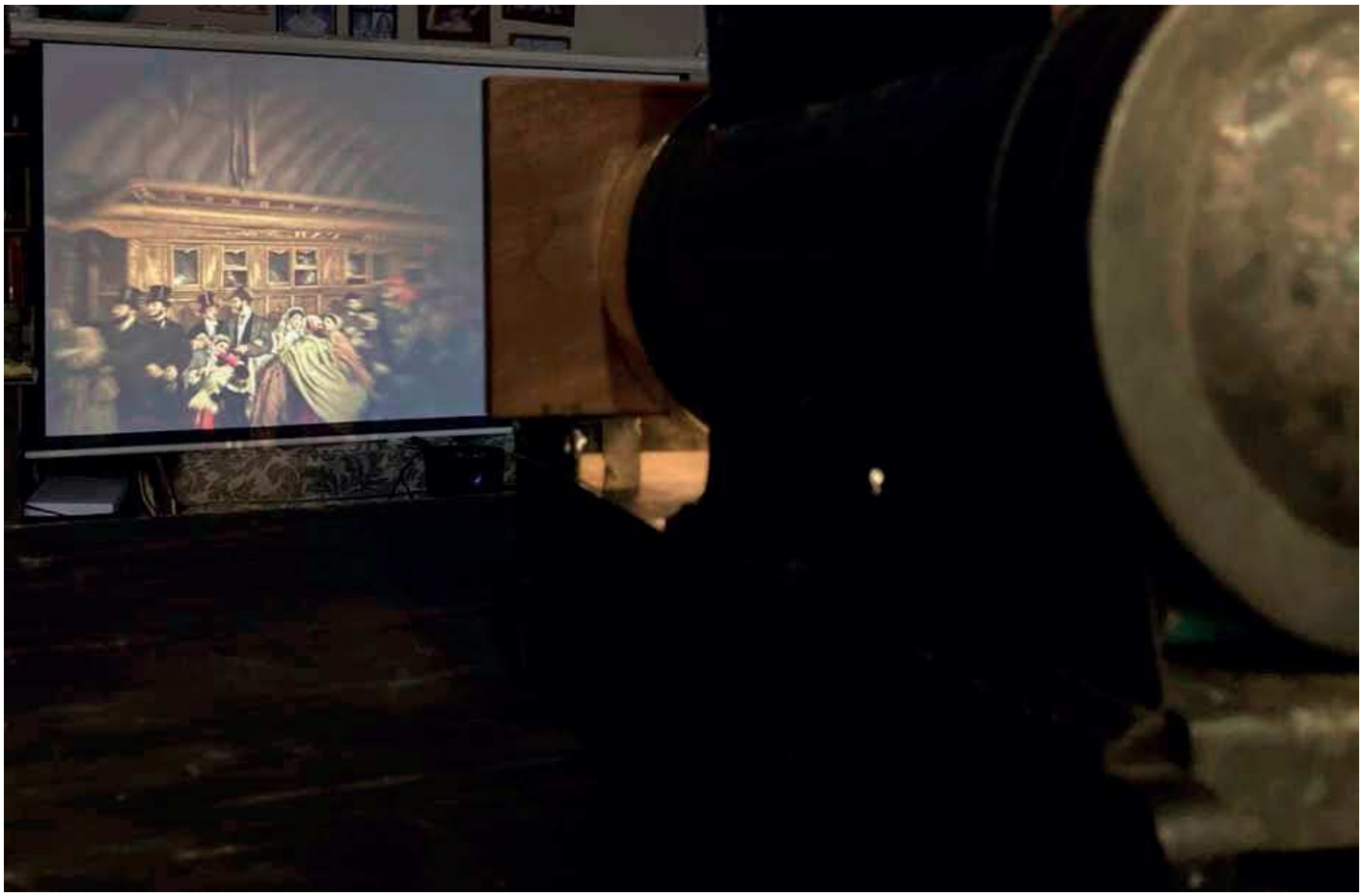


The final lamp assembly

This is enough light to do a decent job projecting in a dark room for maybe 20 or 30 people. As the Marcy likes a "Point" light source, I also found that this was about 20% brighter than the COB (Chip On Board) style LED used in other lighting designs. It is certainly much brighter than the original kerosene illumination would have been.

I hope you have enjoyed this overview. Please feel free to reach out with any questions.

Mounted in the lantern



The result on the screen

Uncle Sam's Movie Projector

by David Evans

Children's magic lanterns were produced in Germany and America around the 1890 to 1920 period in many different sizes and formats and a few of them included primitive movie film adaptors. A little later a new form of children's movie projector appeared on the market. Instead of black and white movie film they showed colour images printed on rolls of thin paper. The images were printed in two rows, one above the other, the projector having two projection lens tubes with pivoted metal flaps behind the lenses so that the beam of light from the electric lamp is alternately interrupted. The top image on the paper is projected by one lens and the picture below it by the other so that they appear sequentially. During the moment that both lens flaps interrupt the light the paper roll is advanced, so that the images effectively move without the need for a shutter or a Maltese cross mechanism.

One such device is Uncle Sam's Movie Projector, manufactured by the Durable Toy & Novelty Corporation of 200 Fifth Avenue, New York. Their factory was in Cleveland Ohio. The factory was founded in 1907 and continued in operation until it was sold to the Western Stamping Company in 1957. The projectors were made from about 1925 until well into the 1930s.

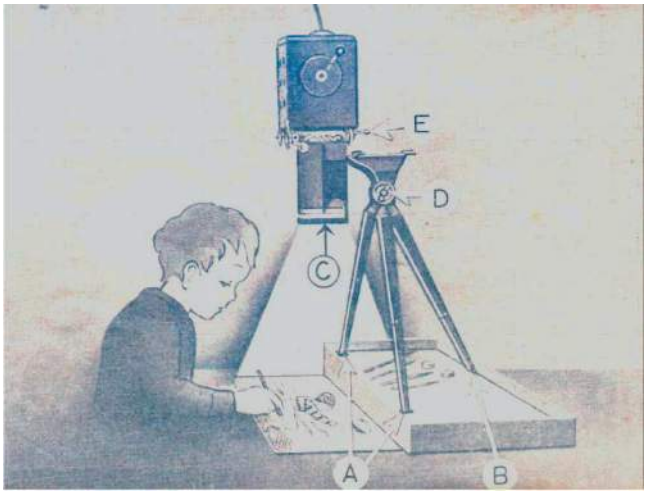
Picture 1: The movie projector

The paper rolls were marketed under the name Duracolor and there was a simple record player that could be attached to the top of the projector, known as the Durotone Talkie System (see front cover), in which a phonograph disc could be played to accompany the story pictures. The whole thing was operated by turning a handle at the side of the projector, the record player having a friction drive from the same handle to its turntable. Another similar device was the Mickey Mouse Movie Jecktor tin movie projector from about 1930. This was made by the Movie-Jecktor Company, co-incidentally, perhaps, also with their office at 200 5th Avenue, New York!

Picture 2: The paper 'film'.

A wide range of the 3 ¾" wide 'films' was available for use with the machine, the list (Picture 4) illustrating sets of films numbered from 50 to 130, but individual films within a set were also numbered, e.g. within Set 50 were films numbered 51, 52 etc. The picture is about 12 inches wide from about two feet from the screen, but a distance of five feet was recommended, so the picture would be proportionally wider, within the constraints of the electric lamp (a regular 40 Watt frosted bulb was recommended).

The Uncle Sam's projector could be used as a tracing aid by attaching it to a special tripod which allowed it to be used vertically. A special tracing pad was available which contained blank white pages, so that an image from a film could be projected and the lucky child could trace around it to produce a drawing.



Picture 3: Using the tracing aid

An example of the use of the system is from the set 'Colleen Moore's Enchanted Castle' (Set no. 90) in which film roll no. 96 is entitled 'How to make the rooms of the enchanted castle'. Tracing the images on to paper and transferring them to card enabled the user to make a model of the castle. If one was lucky enough to have the Durotone

DURACOLOR ANIMATED FILMS FOR UNCLE SAM'S MOVIE PROJECTOR

in brilliant colors, similar to the Real Movie TECHNICOLOR Films—Produced by Famous Movie Artists. Featuring— Famous Movie-land Stars—Comic Cartoon Characters—and Fairyland tales.

Set No. 50—POP EYE—in (6 films to a set) Double-Faced Records—(3 to a set)

Film No.	Record No.	
F-51	R-51	A Dream Walking
F-52	"	The Man on the Flying Trapeze
F-53	F-53	Love's Labor Won
F-54	"	Desert Isle
F-55	R-55	The Hero
F-56	"	The Duck Hunt

Set No. 60—SCRAPPY—in (6 films to a set) Double-Faced Records—(3 to a set)

Film No.	Record No.	
F-61	R-61	Holiday Land
F-62	"	Scrappy's Birthday Party
F-63	R-63	Toy Shop—Reel No. 1
F-64	"	Toy Shop—Reel No. 2
F-65	R-65	Babes in the Woods—Reel No. 1
F-66	"	Babes in the Woods—Reel No. 2

Set No. 70—TOM MIX—in (6 films to a set) Double-Faced Records—(2 to a set)

Film No.	Record No.	
F-71		To the Rescue
F-72	* * *	Cut-Outs for Circus
F-73	R-73	Circus—Reel No. 1
F-74	"	Circus—Reel No. 2
F-75	R-75	Rustlers—Reel No. 1
F-76	"	Rustlers—Reel No. 2

Set No. 80—BETTY BOOP—in (6 films to a set) Double-Faced Records—(3 to a set)

Film No.	Record No.	
F-81	R-81	Peter and Wendy
F-82	"	She Loves Him Not
F-83	R-83	Cinderella
F-84	"	The Bullfighter
F-85	R-85	Beauty and the Beast
F-86	"	In Holland

Set No. 100—FAMOUS ARTISTS CHARACTERS
(6 films to a set) Double-Faced Records—(3 to a set)

Film No.	Record No.	
F-101	R-101	Joe Palooka in The Branford Fight
F-102	"	Winnie Winkle in Detective W-13
F-103	R-103	Orphan Annie in The Fight For Annie
F-104	"	Harold Teen in No Hats Off
F-105	R-105	The Gumps in Hiawatha's Lullaby
F-106	"	Smitty & Herby in Western Rodeo

Set No. 110—FAMOUS ARTISTS CHARACTERS
(6 films to a set) Double-Faced Records—(3 to a set)

Film No.	Record No.	
F-111	R-111	Dick Tracy in Catch That Thief
F-112	"	Dick Tracy in The Mystery Doctor
F-113	R-113	Jackie Cooper in Treasure Island
F-114	"	Jackie Cooper, as above—2 Reels
F-115	R-115	Moon Mullins in Ali Baba and the
F-116	"	Forty Thieves (Same Story—2 Reels)

Set No. 120—FAIRYLAND TALES
(6 films to a set) Double-Faced Records—(3 to a set)

Film No.	Record No.	
F-121	R-121	The Tortoise and the Hare
F-122	"	Pied Piper of Hamlin
F-123	R-123	A Visit to Santa Claus
F-124	"	Three Little Pigs
F-125	R-125	Mary Had a Little Lamb
F-126	"	Pirates Bold

Set No. 130—FAIRYLAND TALES
(6 films to a set) Double-Faced Records—(3 to a set)

Film No.	Record No.	
F-131	R-131	Punch & Judy
F-132	"	Alice in Wonderland
F-133	R-133	Little Red Riding Hood
F-134	"	Humpty Dumpty
F-135	R-135	Hansel & Gretel
F-136	"	Jack and the Beanstalk

Set No. 90—COLLEEN MOORE'S DOLL HOUSE—(6 films to a set) Double-Faced Records—(2 to a set)
Colleen Moore's own voice on Durotone Records tells the story of the Encanted Castle.

Film No.	Record No.	
F-91	R-91	Colleen Moore's Enchanted Castle—Reel No. 1
F-92	"	Colleen Moore's Enchanted Castle—Reel No. 2
F-93	R-93	Bobby and Jeanne's Visit to the Enchanted Castle
F-94	"	Bobby and Jeanne's Visit (Same Story—2 Reels)
F-95	* * *	How to Make the Enchanted Castle
F-96	* * *	How to Make the Rooms of Enchanted Castle

* * *Build your own Enchanted Castle—All the rooms—A Tom Mix Circus—with these films and Movie Tracer.

No. 420—DUROTONE NEEDLES — Special quality needles for reproduction on Durotone Sound System. Packed 100 needles to the package.

Price: **10c** each Package.

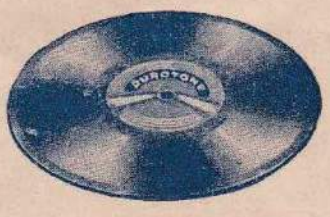
DUROTONE RECORDS are Regular Double-faced 7 inch phonograph Records, synchronized with Duracolor Films. Recorded by real Radio Artists, who relate the film stories in a vivid and interesting manner.

Price: **45c** Per Set, **15c** each Record

All these available at your dealer or direct from

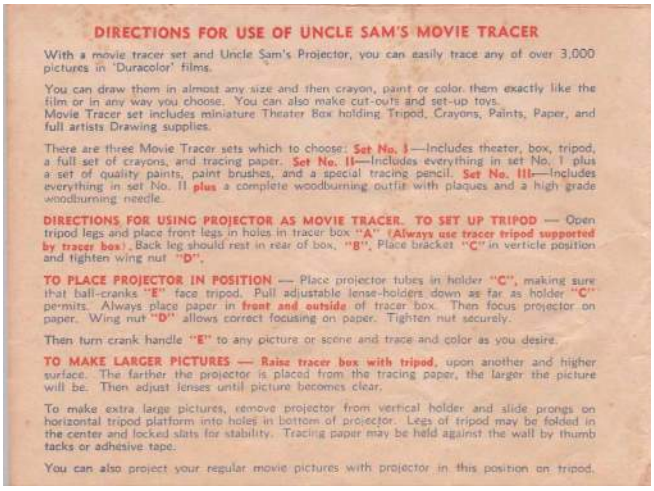
DURABLE TOY AND NOVELTY CORP.

200 Fifth Ave. New York, N. Y.



Picture 4: Some of the films available.

phonograph attachment, Colleen Moore's voice could be heard narrating the story on the record disc! She was an American actress who appeared in silent films in the 1910s - 20s. She originated the 'flapper' fashion style and her bob hair cut also started a new craze, perpetuated more recently by Miss Fisher of murder mystery fame on TV. Colleen Moore later appeared in films by D W Griffith, the great director of early silent films, who started in 1907 and went on to make blockbusters such as 'The Birth of a Nation' (1915), 'Intolerance' (1916 – in which Colleen Moore appeared in a minor role as slave girl), 'Orphans of the Storm' (1921) and many other films.



DIRECTIONS FOR USE OF UNCLE SAM'S MOVIE TRACER

With a movie tracer set and Uncle Sam's Projector, you can easily trace any of over 3,000 pictures in "Duracolor" films.

You can draw them in almost any size and then crayon, paint or color them exactly like the film or in any way you choose. You can also make cut-outs and set-up toys. Movie Tracer set includes miniature Theater Box holding Tripod, Crayons, Paints, Paper, and full artists Drawing supplies.

There are three Movie Tracer sets which to choose: **Set No. I**—Includes theater, box, tripod, a full set of crayons, and tracing paper. **Set No. II**—Includes everything in set No. I plus a set of quality paints, paint brushes, and a special tracing pencil. **Set No. III**—Includes everything in set No. II **plus** a complete woodburning outfit with plaques and a high grade woodburning needle.

DIRECTIONS FOR USING PROJECTOR AS MOVIE TRACER. TO SET UP TRIPOD — Open tripod legs and place front legs in holes in tracer box **"A"** (**Always use tracer tripod supported by tracer box**). Back leg should rest in rear of box, **"B"**. Place bracket **"C"** in verticle position and tighten wing nut **"D"**.

TO PLACE PROJECTOR IN POSITION — Place projector tubes in holder **"C"**, making sure that ball-cranks **"E"** face tripod. Pull adjustable lense-holders down as far as holder **"C"** permits. Always place paper in **front and outside** of tracer box. Then focus projector on paper. Wing nut **"D"** allows correct focusing on paper. Tighten nut securely.

Then turn crank handle **"E"** to any picture or scene and trace and color as you desire.

TO MAKE LARGER PICTURES — Raise tracer box with tripod, upon another and higher surface. The farther the projector is placed from the tracing paper, the larger the picture will be. Then adjust lenses until picture becomes clear.

To make extra large pictures, remove projector from vertical holder and slide prongs on horizontal tripod platform into holes in bottom of projector. Legs of tripod may be folded in the center and locked slats for stability. Tracing paper may be held against the wall by thumb tacks or adhesive tape.

You can also project your regular movie pictures with projector in this position on tripod.

Picture 6: Directions for using the tracer

To use the projector as a tracing tool the projector had to be mounted on the special tripod (available as an extra) and arranged to point vertically down (Picture 4). The size of the image could be adjusted by extending the tripod legs and re-focussing. Instructions for its use can be seen in Picture 6.

A number of these toys has appeared on the market over the last couple of decades, so they are not really scarce, but the version with the phonograph adapter is rarely found. If you have one, the author would be pleased to know how good the sound is!

Picture 5: Colleen Moore

THE REMAINING PIRATES TURNED TAIL AND FLED
YOU'VE SAVED OUR LIVES-SON, AND I'M VERY PROUD OF YOU
HOMEWARD-BOUND
NOW MAKE YOUR OWN DRAWINGS, PAINTINGS, CUT-OUTS WITH THIS PROJECTOR AND UNCLE SAM'S - MOVIE TRACER
STOP! REWIND. START A FILM LIBRARY
DURABLE
THE REMAINING PIRATES TURNED TAIL AND FLED
YOU'VE SAVED OUR LIVES-SON, AND I'M VERY PROUD OF YOU
HOMEWARD-BOUND
MOVIE TRACER SET CONTAINS TRI-POD, CRAYONS, PAINTS - AND COMPLETE DRAWING EQUIPMENT — PLACE PROJECTOR IN TRACING POSITION ON TRI-POD AND YOU CAN REPRODUCE ANY PICTURE IN DURACOLOR FILMS TO ANY SIZE YOU DESIRE —
DURACOLOR FILMS
POPEYE
TOM MIX
SCRAPPY
BETTY BOOP
THE GUMPS
WINNIE WINKLE
ORPHAN ANNIE
COLLEEN MOORES
MANY FAIRYLAND TALES AND CHARACTERS

The World Electro Radiant Magic Lantern No.2

Fig 1: The World Electro Radiant No. 2

Prolifically advertised by the World Manufacturing Company of 122 Nassau Street, New York, this amazing $25 lantern was available for only $12 in 1879, and you could easily earn $10 to $50 per night with its 8 foot diameter picture, making for a very good profit margin! So, what was this secret of financial success? It was illuminated by an oil lamp, Figs 2 & 3, obviously of remarkable efficiency, together with a large concave mirror behind it (Fig 4) which no doubt did give a result somewhat of an improvement over the earlier designs - but an 8 foot picture? One wonders!

Fig 2: The Radiant lamp arrangement

Fig 3: The Radiant oil lamp

The exact same lantern was also advertised by the World company's close neighbours, Peck and Snyder, located just a couple of doors away at 126 Nassau street. Which, if either of them, actually manufactured it is at present open to some doubt, as both firms claimed to be manufacturers. There was also the No. 3 lantern, somewhat smaller, but still able to make a picture four feet in diameter, and only $8!

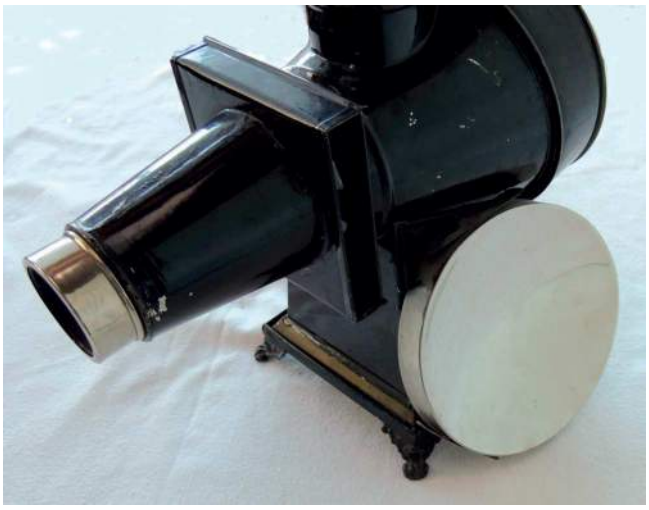


Fig 4: The concave mirror of polished and plated tin, which pushes into the large diameter back of the lantern.

Figures 2 and 3 are reproduced by kind permission of Henc R A de Roo of the Dutch Virtual Magic Lantern Museum at:

https://luikerwaal.com/indexx_uk.htm

This Cut SHOWS No. 2.

THE WORLD Electro Radiant MAGIC LANTERNS.

PATENTED.

PERFECTION AT THE LOWEST PRICE!

TWO SIZES NOW READY

No. 2,

$25 LANTERN FOR $12

No. 3,

$16 LANTERN FOR $8.

The body of the **ELECTRO RADIANT** is a cone shaped reflector which gathers each divergent ray of light and concentrates them all on the main reflector, whence the whole mass of brilliancy illuminates and projects the picture with startling clearness. No combination of lenses however ingenious has ever been known to produce equal effects with the light used. The cost of an outfit to enable you to do **A PROFITABLE BUSINESS,** now that this Lantern is placed on the market, is very small compared with the amount of money it takes to do any other business. Anyone of ordinary intelligence can operate the **ELECTRO RADIANT,** there is no hard labor required in giving an exhibition.

$10.00 TO $50.00 PER NIGHT MAY BE EARNED

By giving Parlor, Sunday School, Academy or Public entertainments.

As an Educator the ELECTRO RADIANT surpasses almost every other apparatus used in a school. The attention of the scholar is concentrated on just the **one** illustration before him and on no other as in the dark nothing else can be seen and the mind of the student is forcibly attracted. **Masonic** and other **Lodges** or **Societies** will find the **ELECTRO RADIANT** a novel, useful, and profitable addition to their paraphernalia in illustrating their rituals or giving entertainments. **For Public Entertainments** the possessor of an **ELECTRO RADIANT** has something that will "draw" with the combined power of the **Theatre,** the **Circus,** the **Prestidigitatuer,** the **County Fair,** the **Temperance Crusade,** and the **Camp-Meeting.** A room that will hold 100 persons may be filled nightly and a good profit be cleared. Our photograph slides represent faithfully Beautiful Works of Art, Scriptural Scenes, Portraits of Prominent Persons and Comic subjects that are a never ending source of delight.

Even if you only wanted to amuse your friends or family, see what a cheap and beneficial entertainment you can furnish. An intelligent neighborhood would call you blessed. It is the simplest thing in the world to work this **Magic Lantern**—the only magic about it, is in its astounding effects that transport the gazers into other lands and among other peoples. The most sad scenes can be instantly contrasted with the most diverting. If you desire to keep children from the tavern or worse places have an **Electro Radiant** in the house. You have only to tack the sheet to the wall, darken the room, place Lantern on stand, light lamp, and you are ready to begin the exhibition. The Magic Lantern Show is different from every other, in these points: A child on his grandma's knee is as much pleased as his grandma; the most ignorant is as much interested as the most wise; it attracts the schoolboy equally with his master; all kinds, classes and degrees of folks are delighted by it. **Views of every possible subject** can be used to advantage.

The **Electro Radiant** used as an *Advertising Medium* will earn a great deal of money for an enterprising man. For this purpose the town should first be canvassed to obtain the business cards of those who wish to advertise. The cards may then be sent to us and we will make the slides for **75** cents each. The advertiser should pay for the slide and also pay the exhibitor from ten to fifty cents per evening for showing it up in the lantern. Now select a good location where the most people pass of an evening, though the darker the place the better. You can probably get the use of a window or doorway in some store which is not otherwise used in the evening, and from 7 to 10 o'clock you could show each business card for one minute several times in the course of an evening, and by interspersing a comic or other interesting picture you can always keep a crowd before you. This form of advertising is the best in use and profitable to both advertiser and exhibitor. The outfit costs just enough to prevent everybody going into it, and therefore it becomes a sort of monopoly to the one man in a town who has the "stamp" to go into it.

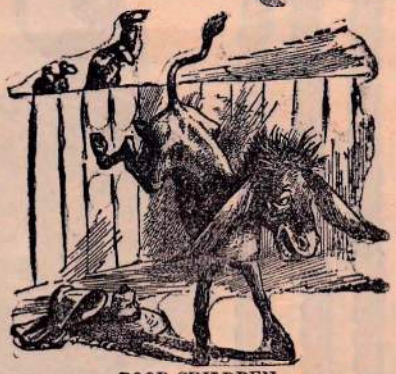
World Manufacturing Co., 122 Nassau Street, New York.

The Electro Radiant No. 2, Projects on to the Screen

A PICTURE EIGHT FEET IN DIAMETER.

Imagine the effect on an audience when pictures like the following are enlarged to Eight feet in diameter, with every line and feature clearly shown, it is simply astonishing.

POOR DONKEY.



POOR CHILDREN.

ROMANCE, REALITY.

Somebo he would show his skill,
But the Donkey won't go against his will.

The Electro Radiant No. 3 Lantern though not so well suited for large audiences as the No. 2. Like it, it will do the work of Lanterns (made on other principles) costing twice our price for this.

IT MAKES A PICTURE FOUR FEET IN DIAMETER,

and for parlor amusement is the greatest thing of the kind ever offered.

We commenced the Lantern business with the "No. 3" in the winter of 1882, and our sales were so large, that we decided to go into the business still more extensively this year, and have made an outlay of thousand of dollars, that we may be ready for the rush which is sure to come.

TEN THOUSAND DOLLARS

were paid for the **use of our Patent** by one Railroad Company **for LOCOMOTIVE HEAD LIGHTS.** It being considered the most wonderful light ever produced for the purpose. We have retained the exclusive right to make **Magic Lanterns** on precisely the same principle and the **Electro Radiant** is the result. The adjustment of Reflector, Lenses, Tubes, Slide Rest and Cone are made with mathematical nicety. Optical laws governing such adjustment have been accurately calculated, so that you have in our Lanterns far more than appears as you look at them. We therefore feel that we are actually Pioneers in giving to the general public at prices less than half, heretofore asked for instruments for similiar purposes, and that we are placing within the reach of all, unsurpassed advantages for

LEARNING, AMUSEMENT AND PROFIT.

The **Transparent Slides** for these Lanterns embrace views Illustrating **wonderful Natural Scenes** from different parts of the world. The **Scriptures**—Subjects from both the Old and New Testaments. **Temperance**—Showing the folly and misery of the drunkard. **Art**—Copies of famous Statues, Bas-relief's and Engravings. **Miscellaneous**—Such as Ships at Sea in a Storm, Steamboat Race, Fort Sumpter, Daylight, Scene, Moonlight, &c. &c. **History**—Landing of Columbus, Declaration of Independence, Yankee Doodle &c., &c., **Comic**—Side Splitters without number &c., &c. We pack with each Lantern a full list of our stock **slides**, so that you can add to your assortment at any future time if you choose

Each **Lantern** with slides complete is packed in a neat box which may easily be carried in the hand.

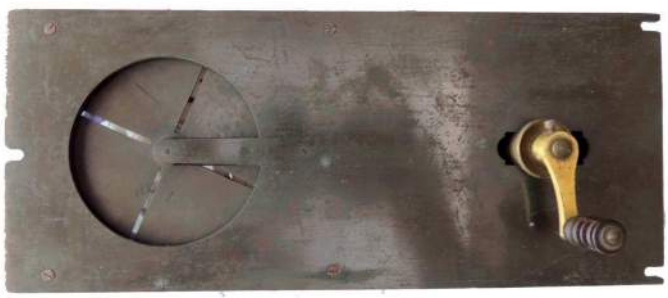
PRICES.—The **Electro Radiant No. 2**, (as shown in cut) with slides and fittings complete will be sent by express on receipt of **$12 00**, or C. O. D. if **$3 00** on account is sent with the order, the purchaser paying the balance, **$9.00** at the express office

The Electro Radiant No. 3 with Slides and Fittings complete, will be sent by express on receipt of **$8.00**, or C. O. D. if **$2.00** (on account) is sent with the order. The purchasers paying the balance **$6.00** at the express office. Full instructions and list of other views sent with each Lantern. Send money order or registered letter,

Send all orders to **World Manufacturing Co. 122 Nassau Street New York**

The Anorthoscope

An occasional series on some rare slides



THE ANORTHOSCOPE

BY WILLIAM B. CARPENTER

M.D.

Vice-President of the Royal Society, writing in 'The Student and Intellectual Observer', Vol II, 1869

We have now to bring under the attention of our readers another instrument, which, although invented more than thirty years ago, is still much less generally known than it deserves to be, either to the scientific or to the general publics

This instrument, designated by its inventor, Professor Plateau, the *Anorthoscope,* is nothing else than an apparatus for making two wheels or disks revolve in opposite directions very near each other; the velocity of one, however, being a multiple of that of the other. Professor Plateau originally devised this little machine, of which he published a description in 1829, with a view to a class of effects analogous to those previously described by Dr. Roget namely, the production of curves by the glimpses obtained of revolving radii, not through a succession of parallel slits, but through slits themselves revolving in an opposite direction to the radii, with a much smaller velocity. After having been led, however, by Professor Faraday's observations, to the invention of the Phenakistiscope, Professor Plateau perceived that his machine might be applied to the production of an entirely new class of effects; namely, the conversion of *distorted* figures, such as that shown in the Coloured Plate (Fig1), into such *normal* shapes as that shown in Fig.2.

Fig 1: Distorted image of cherub

The distorted figure is drawn, according to a principle that will presently be explained, on the *back* disk, which is rendered semi-transparent by varnish; and is made to revolve *four* times, while the *front* disk, which is opaque and black, with

Fig 2: The result - in practice, the screen shows five cherubs, each forward reaching hand touching the feet of the one in front.

four slits disposed in this manner:

revolves *once.* When the disks are put in motion, with a strong light behind the back disk, *five* stationary images, arranged in a circle, each image having its normal proportions, are seen through the front disk. This production of normal from distorted figures, combined with their multiplication, sometimes gives rise to most unexpected results, as in the case represented in Fig. 3; for no one, without having studied the principle of these results, would be likely to guess that the spiral curves would come out as the straight edges of ten playing-cards, and the deformed spots as their pips, as shown in Fig. 4.

It is not difficult to understand the *rationale* of these curious results, when we give a little attention to the effect which the multiplied velocity of the disk bearing the figure must have upon the coincidence of any point in that figure with any point in the disk through which it is seen. For the sake of convenience, we shall assume that the latter has only one slit and that its velocity is to that of the disk carrying the figure as 1:4; and we shall consider the entire circle described by either as divided into 20 parts, numbered from 1 to 20 in the direction of a clock-face.

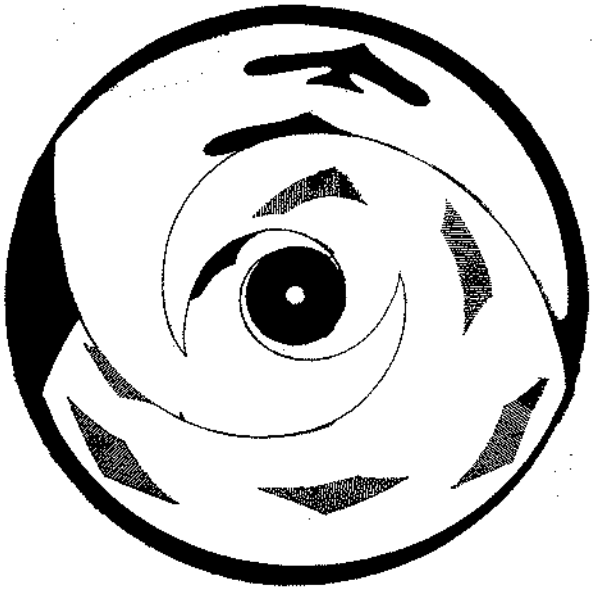


Fig 3: Distorted playing card

Now, let any point *a* of the figure on the hinder disk be seen through the slit in the front disk when both are at 20, and let the former travel from left to right (in the direction of the figures), whilst the latter travels from right to left; then it is obvious that whilst the slit moves from 20 to 19, the point *a* will have moved from 20 to 4, and that by the time that the slit has passed through 4 divisions, so as to reach 16, the point *a,* moving in the opposite direction with four times the velocity, will have passed through 16 divisions, and will therefore be again seen through the slit. In like manner, by the time that the slit has reached 12 in the backward direction, the point *a,* having moved onwards through 16 divisions, will reach 12 in its second revolution, so as again to be seen through the slit; a third coincidence will take place at 8 in the third revolution of the figure-bearing disk; a fourth coincidence at 4 in its fourth revolution ; whilst the completion of that revolution will bring the point *a* again to 20 precisely at the same time as the slit reaches it, after having made but a single revolution. (Fig. 4.)

Thus, during one turn of the front disk, the eye

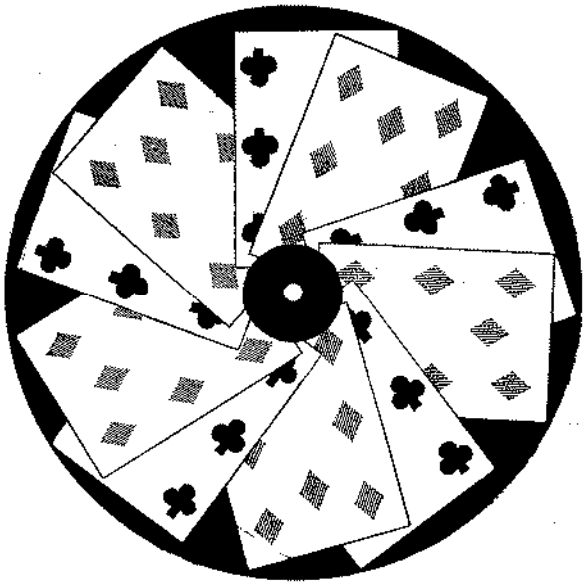


Fig 4: The image on the screen when the Anorthoscope is cranked

will have received five glimpses of the point *a,* at angular intervals of 72° from each other; and the same will of course be true in regard to every other point of the figure on the back disk. Further, if instead of one slit in the front disk, we have either *two, three, or four,* the effect remains the same, provided that these slits be so arranged that the angular interval between them is either 90° or 180°, the coincidences between the slits and any given point *a* on the back disk will still recur at the same parts of the revolution, so as to give a stationary image, of which the augmentation in the number of the slits up to this point simply increases the vividness, by making the recurrence of the glimpses more frequent. But if the number of slits was augmented beyond four, or they were disposed at any intermediate angles, the coincidences would not recur at the same parts of the revolution, and the whole effect would be deranged.

Fig 5: The distorted image mounted

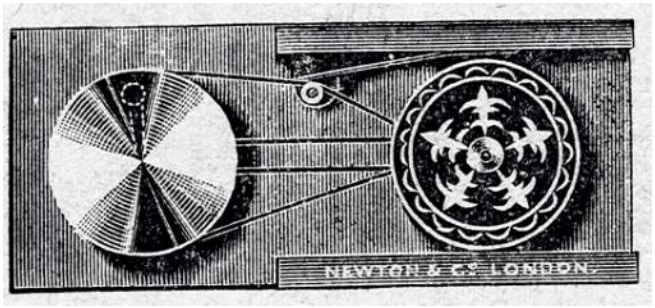


Fig 6: Anorthoscope as depicted in a Newton catalogue

Reprints of Magic Lantern Catalogues

Catalogue Of Stereopticons, Dissolving View Apparatus, Magic Lanterns
And List Of Over 3000 Carefully Selected Views For The Illustration Of Subjects Of Popular Interest
Scholar SELECT
T.H. MCALLISTER (NEW YORK, N.Y.)
Illustrated Catalogue of Stereopticons, Sciopticons, Dissolving View Apparatus, Microscopes, Solar Microscope and Stereopticon Combination
Objectives, Photographic Transparencies, Plain and Artistically Colored Views and Microscopical Preparations
Scholar SELECT
MCINTOSH BATTERY AND OPTICAL COMPANY
Catalogue of Magic Lanterns, Stereopticons, and Moving Picture Machines
Scholar SELECT
MONTGOMERY WARD

Franklin Classics and Andesite Press, parts of Creative Media Partners (https://support.creativemedia.io) have reprinted three catalogues of Stereopticons, Magic Lanterns, Moving Picture Machines etc and slides from three American suppliers – T H McAllister, Montgomery Ward and McIntosh Battery and Optical Company in their Scholar Select range. The back of each book states:

"This work has been selected by scholars as being culturally important, and is part of the knowledge base of civilization as we know it. This work was reproduced from the original artifact, and remains as true to the original work as possible. Therefore, you will see the original copyright references, library stamps (as most of these works have been housed in our most important libraries around the world), and other notations in the work.

This work is in the public domain in the United States of America, and possibly other nations. Within the United States, you may freely copy and distribute this work, as no entity (individual or corporate) has a copyright on the body of the work.

As a reproduction of an historical artifact, this work may contain missing or blurred pages, poor pictures, errant marks, etc. Scholars believe, and we concur, that this work is important enough to be preserved, reproduced, and made generally available to the public. We appreciate your support of the preservation process, and thank you for being an important part of keeping this knowledge alive and relevant."

The McAllister book is a reprint of their 1867 47-page catalogue including "Stereoticans, Dissolving View Apparatus, Magic Lanterns and list of over 3000 carefully selected views for the illustration of subjects of popular interest". It is hard-bound, the clarity of the pages is quite reasonable, but it is a shame that they have only used about 50% of the available area of each page, leaving a lot of white border around each original catalogue page.

The Montgomery Ward print is similarly in a hardback format and the 29 original pages do fill the print pages rather better. They did not specify the date of the original catalogue, but it includes moving picture machines, so must be relatively late.

The McIntosh Battery and Optical Company example is quite different. This is a soft-cover print of the Tenth Edition of the original catalogue from 1895 with all its 317 pages plus another 12 of index. The original pages fill the available space reasonably well, but a number of pages have large black smudges obscuring the text – one might have thought that a little more care with the scanning might have yielded a better result, though it may well have been that the pages of the original were badly damaged.

Notwithstanding criticisms, it is amazing that Scholar Select considered these reprints as culturally important and it does mean that collectors and researchers now have information readily available that otherwise would have been very difficult to locate, and we should be very grateful to the publishers for going ahead with this project.

These volumes are available from multiple sources – or go to

https://www.bookdepository.com/publishers/Creative-Media-Partners-LLC

Tips on Giving Magic Lantern Shows

by Terry Borton

Editor's Note: *This article continues a series of short Tips on how to improve your magic-lantern shows. Terry Borton's American Magic Lantern Theater (AMLT) has given more than a thousand shows over the last 25 years, from Podunk to Lincoln Center. He says he's also made a thousand mistakes, and hopes these Tips will help you make a few less.*

6. The Slides

Now here's a subject that can be explored *ad infinitum*. I'll deal with the basics first, and then come back later to talk about the use of the more unusual slides.

As you no doubt know, slides for adult lanterns come in two basic different sizes, 4"x7" wood framed, and 3-¼" x 4" all glass. With a slide changer for the 3¼" x 4" you can move back and forth between these two formats, but not quickly. To do that you need a consistent format - 4" x 7" wood frames.

A typical slide changer or carrier

You can buy on eBay adapters that will convert all-glass to wood-framed, but it's not very difficult to make your own, or have them made. Basically, it's just a picture frame with slots for the slide. Get an empty wood frame to use as a model, and go from there. (You can have a local woodshop do the cutting and you can do the assembly to save money.) Be sure to put the glass slide in the frame with the label facing you, or, if no label, correctly orientated so that writing is legible, swordsmen fight with the right hand, etc. Two important things to keep in mind about making those frames:

All your slides should be the same thickness. If they are not, your focus will be off. So pick a slide from your collection that will be your master, and use that thickness dimension for any new slide frames you make.

The second critical dimension is the distance from the back of the wood frame to the glass. If it is not the same in every slide, again, your focus will be off. Measure your master carefully, and cut the slots for the glass in your new slides at exactly that distance.

To get the same focus on all your existing slides, you need to make some adjustments on them as well. I have a collection of shims, made from different thicknesses of thin mahogany available at hobby shops. Get the lantern focused with your master, then add strips of the right size with Elmer's Glue-All. It holds well, and if you want to take off your strips, you can dissolve the glue with water. (Yes, I know. You're messing with the original artifact. That's a real issue, and you shouldn't use this technique on unusual artifacts. But for most slides my attitude is that you are not curating a museum, you are adapting old material in order to give an historical experience no museum can match.

Mahogany strips for adjusting slides

There are some slides, usually mechanical, that cannot be adapted this way. For those, you use the focus adjusting knob on your lantern.

Numbering: It's really, really, really important to keep your slides in order, with the correct side up. Bringing up the wrong slide at the wrong time or in the wrong orientation is really embarrassing. Use gum labels to number your slides on the top right,

upside down. As you modify your show, and you will, you can adjust the numbers with letters, 2A, etc. so you don't have to renumber the whole thing. If I have a set of slides in new holding frames, I also add a diagonal line across the top, from the start of a show segment to the end. That way I can see instantly if something is out of order.

Management: Some lanternists perform at the side of the lantern, using one box for all the slides, taking them out of one side and putting them back in another. I've found that this is slow, and that it's too easy for me to make mistakes. So I put a "feeder" or "holder" box of slides to the right of the lantern, behind the podium, and a "receiving" box to the left. Slides go into the lantern on the right, and out, with my left hand, to the left. I can do this myself, but I like to have an assistant, either my wife or a child from the audience. They take the slide from me and put it in the box. That saves a few seconds of time and attention that I can put into the dramatic performance.

Often there is difficulty getting slides into the lantern's carrying frame. I've rounded off the edges of many of my slides so that they go in more easily. And if you angle the slide, so that only a corner of it enters the brass carriage initially, it will go in much more smoothly. Just remember to level it off. Really fat slides require that you hold the carriage open with the fingers of one hand as you insert the slide with the other.

Some lanternists use the "stops" in their lantern to center the slides. This is important if you are projecting a series of matched chromatropes, but for ordinary projection it slows things down a lot. I want to be able to move quickly, so I center the slides by simply putting my two hands on either side of the lantern and squeezing the slide between them.

When the receiving box is full, the feeder box is empty. In ten seconds I can pick up the empty box, lift it around the lantern, put it on top of the previous receiving box, and continue the show. The audience isn't even aware of the changeover. (For a 1 ½ hour show, which requires three boxes of slides, I reshuffle during the intermission.)

Next Time: The Screen

The Purposes of The Society shall be:

To establish an organization of people and entities interested in the collection, possession, conservation, restoration and maintenance of Magic Lanterns, Lantern Slides and related materials;

To encourage members to share their knowledge of Magic Lanterns, Lantern Slides and related materials with any interested persons or entities;

To coordinate research, catalogue material and disseminate information about the history, uses, development and preservation of Magic Lanterns and Lantern Slides; and

To promote exhibitions and/or shows utilizing Magic Lanterns, Lantern Slides and related equipment, in known methods of use in as historically accurate a manner as possible.

Magic Lantern Society of US & Canada (abbreviated to MLS herein) and Editorial Policy.

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Note: As a Society, MLS does not give valuations nor takes responsibility for advice or guidance, nor implies any form of guarantee for the accuracy or consequences arising from information so given.

The Magic Lantern Calendar

Exhibits

Currently open, ***Balzer Collection,*** Academy Museum of Motion Pictures, Los Angeles CA USA. 9,000 magic lantern objects collected by former MLS president Richard Balzer.

Currently open, ***Brinton's Famous Moving Pictures,*** Iowa University Library, Iowa City, IA. Includes magic lanterns and slides.

Currently open, ***Virtual Victorians,*** Daventry Museum, Daventry, Northamptonshire, UK. "Fascinating facts and curious objects," including magic lantern.

Through May 9, 2021, ***All You Need Is Light,*** Massillon Museum, Massillon Ohio USA. Equipment related to the photographic process including magic lantern and slides.

August 23 – September 3, ***Peepshow: Land of Lost Encounters,*** Burning Man 2021, Black Rock Desert, Nevada. "A magic lantern-esque cinema encounter."

Through December 2026, ***The Story of the Moving Image,*** Australian Center for the Moving Image, Melbourne Australia. From magic lanterns to the latest in interactive technology

Meetings

July 24, 2021, ***Summer Meeting,*** Magic Lantern Society, University of Exeter, Exeter, England

October 23, 2021, ***Fall Meeting,*** Magic Lantern Society, Swedenborg Hall, London, England.

April 29 – May 1, 2022, ***Magic Lantern Convention,*** Magic Lantern Society, Birmingham, England.

September 2022, ***Magic Lantern Convention,*** Magic Lantern Society of the US and Canada, Cleveland OH. Dates TBA.

Online

The Museum of American Magic Lantern Shows, 5-minute intro, 10-minute Highlights Tour, 30-minute In-Depth Tour and Kids' Page. www.magiclanternmuseum.com

***Virtual Worlds in Early Cinema: Devices, Aesthetics and* Audiences,** Museu del Cinema, University of Girona, Oct 20-22, 2021. Call for papers is open until May 5; registration begins June 7.

Rare Images from Tuskegee Institute, Grand Rapids Public Museum, grpmcollections.org/Detail/collections/335. Other images include Abraham Lincoln, World War I, band instruments, baking and lumbering in Michigan.

Lower *the Lights*, Magic Lantern online exhibit at Cotsen Children's Library, Princeton University:

https://library.princeton.edu/libraries/cotsen/exhibitions/MagicLantern/index.html

Lucerna – the Magic Lantern Web Resource, online database collaboration covering all aspects of magic lanterns. http://lucerna.exeter.ac.uk/

The Dutch Virtual Magic Lantern Museum - An online museum from the collection of Henc R A de Roo of Huizen, The Netherlands

https://luikerwaal.com/indexx_uk.htm

To add your magic lantern show, exhibition, or meeting to our calendar, or to list your show for potential bookings, drop a line to briandrogers@gmail.com

Classified Advertisements

Wants

WANTED

English collector looking for figurines depicting itinerant lanternists and peepshowmen – examples shown here.

If you have any such pieces that you would like to sell please contact Mike Smith – kime1944@gmail.com

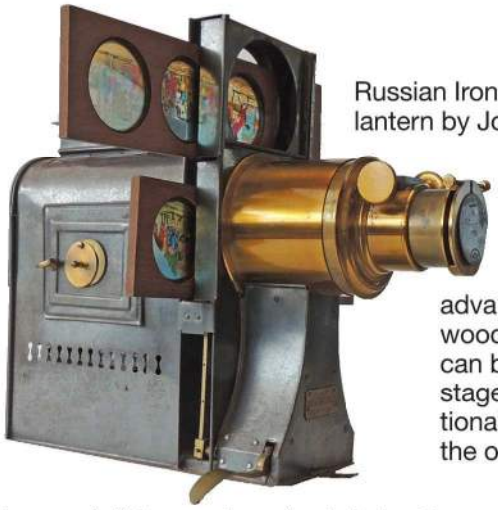
WANTED

A pair of 8" focal length projection lenses in 63mm diameter plain tubes. Also a pair of projection lenses engraved 8 IN EQUI also in 63 mm tubes (I have focussing sleeves for these) or a single similar lens in 2 1/16" (52mm) tube.

A conical Ernst Plank chimney with a brass flared bell top, 2 1/2" across the bottom.

Contact Lindsay Lambert - m.lindsaylambert@gmail.com

Sales



Russian Iron Metamorphoser lantern by John Wrench & Son, London. The design was introduced by W C Hughes in 1888. The advantage is that a wood mounted slide can be placed in one stage and a conventional slide carrier in the other, so that the types of slides can be mixed during the presentation. It comes with an electric lamp holder. Circa 1890.

Price $350.
Contact David Evans,
secretary-treasurer@magiclanternsociety.org

This page available to members for Sales or Wants. Please contact the Editors

DURABLE TOYS PRESENTS
FAIRYLAND TALES
SET No. 130
Punch & Judy
Alice in Wonderland
Little Red Riding Hood
Humpty Dumpty
Hansel & Gretel
Jack and the Beanstalk
DURACOLOR FILMS
UNCLE SAM'S MOVIE PROJECTOR AND DUROTONE TALKIE SYSTEM
UNCLE SAM'S PROJECTOR CONVERTED INTO MOVIE-TRACER
SET No. 130 FILM No. F133 FAIRYLAND TALES LITTLE RED RIDING HOOD
SET No. 130 FILM No. F134 FAIRYLAND TALES HUMPTY DUMPTY
SET No. 130 FILM No. F135 FAIRYLAND TALES HANSEL & GRETEL
SET No. 130 FILM No. F136 FAIRYLAND TALES JACK AND THE BEANSTALK
DURACOLOR ANIMATED FILM